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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/944,306	08/31/2001	Alan J. Terry	GB000120	2151

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EXAMINER	
LEE, BENJAMIN C	
ART UNIT	**PAPER NUMBER**
2632	

DATE MAILED: 09/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/944,306	TERRY, ALAN J.	
	Examiner	Art Unit	
	Benjamin C. Lee	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 April 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *8/31/01* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/1/02,8/31/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3, 5-8 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goedeke et al. (US 5,683,432) in view of Sudo et al. (US 6,363,101).

1) Regarding claims 1-2:

a) Goedeke et al. discloses a data transmission system (Figs. 6-7), comprising a transmitter (150) and a receiver (170), wherein the transmitter is arranged to send data bursts with a very low duty cycle (col. 22, line 36) at transmission timing points, the transmitter (150) comprising a pseudo-random signal generator (152) which governs the time delay between successive timing points and a local oscillator (154) which controls the time of data transmission, and wherein the receiver (170) comprises a corresponding pseudo-random signal generator (176) and local oscillator (174);

except:

b) specifying the claimed duty cycle of less than 5% or less than 1% at the transmitter, and wherein power is applied to the receiver substantially only corresponding in time to the timing of the data bursts.

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that a duty cycle of less than 5% or 1% is within the scope, or is obvious over the

"very low duty cycle" of Goedeke et al. based on the particular data rate and power consumption trade-off criteria assigned for particular intended applications of the system.

Furthermore, power conserving feature at the receiver in which power is applied to the receiver substantially only corresponding in time to the timing of the data bursts has been known in the art, such as that taught by Sudo et al. (see power control feature disclosure of Figs. 1 and 15). In view of the teachings by Goedeke et al. and Sudo et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include a power conserving feature such as taught by Sudo et al. in a portable/battery operated receiver of Goedeke et al. in order to prolong operating life without interruption or frequent need for battery replacements.

2) Regarding claim 3, Goedeke et al. and Sudo et al. render obvious all of the claimed subject matter as in claim 1, including:

a) the claimed wherein the transmitter and receiver each include a power source comprising a battery (col. 24, line 52 of Goedeke et al.);

except:

b) specifying wherein the batteries are non-rechargeable.

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that either rechargeable or non-rechargeable batteries can be used with the transmitter and receiver system of Goedeke et al. and Sudo et al.

3) Regarding claims 5-8 and 12-13, Goedeke et al. and Sudo et al. render obvious all of the claimed subject matter as in claim 1, except:

a) (claim 5) the claimed wherein each data burst comprises a header section and a data section, and wherein the header section for a sub-set of the data bursts comprises a sequence

which is unique to the header, thereby to enable receiver to obtain bit timing information; (claims 7 &12) wherein the header comprises address data which identifies the transmitter to the receiver; and (claims 8 & 13) wherein the address data is used in combination with the pseudo-random signal generator to generate a modified pseudo random sequence;

b) (claim 6) the claimed wherein each data burst comprises a header section and a data section, and wherein the header section for a sub-set of the data bursts comprises data defining the time period to the next message.

However, since the use header and data sections in data communication including data burst transmissions whereby the header sections are unique sequences to distinguish themselves from the data sections and subsections and whereby the header enables the receiver to obtain bit timing/message timer period or synchronization information, as well as the inclusion of transmitter identifying address data in the header as a way to identify the transmitter and/or the receiver as well as synchronization of communication, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use such header feature in the data bursts in a system such as Goedeke et al. and Sudo et al. to facilitate communication between the transmitter and receiver. Furthermore, the claimed wherein the address data is used in combination with the pseudo-random signal generator to generate a modified pseudo random sequence is met by "Information In" modulation input of the Data onto the pseudo random sequence in Fig. 6 of Goedeke et al. in combination with the considered "address" as a specific portion of the data.

4) Regarding claim 11, Goedeke et al. and Sudo et al. render obvious all of the claimed subject matter as in claim 1, except:

--specifying the claimed wherein each local oscillator comprises a 32768Hz quartz oscillator.

However, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use implement the local oscillator using a 32768Hz quartz oscillator in a system such as taught by Goedeke et al. and Sudo et al. based on the particular communication signal and modulation frequencies chosen without unexpected results.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goedeke et al.) in view of Sudo et al. and Arazi et al. (US 2001/0041594).

1) Regarding claim 4, Goedeke et al. and Sudo et al. render obvious all of the claimed subject matter as in claim 1, except:

--specifying the claimed wherein each pseudo-random signal generator comprises a maximal length feedback shift register.

However, Arazi et al. teaches that implementation of pseudo-random signal generators using maximal length feedback shift registers has been known in the art ([0157]).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the pseudo-random signal generators in a system such as taught by Goekeke et al. and Sudo et al. using known maximal length feedback shift registers as taught by Arazi et al.

4. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goedeke et al.) in view of Sudo et al. and Hutchings (US 5,724,265).

1) Regarding claims 9-10, Goedeke et al. and Sudo et al. render obvious all of the claimed subject matter as in claim 1, except:

--the claimed wherein the transmitter is for attachment to a shoe, and comprises an accelerometer and a processing unit, the processing unit integrating the detected acceleration over time to obtain instantaneous speed values which are transmitted in the data bursts, wherein the receiver is for wearing on the wrist of the user of the system.

Hutchings discloses attaching a transmitter device to a shoe, the transmitter device comprises an accelerometer and a processing unit, the processing unit integrating the detected acceleration over time to obtain instantaneous speed values which are transmitted in the transmission signal, and wherein the corresponding receiver is for wearing on the wrist of the user of the system (Abstract; Fig. 1; col. 2, line 64 to col. 3, line 18 and col. 8, lines 46-56).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement the unspecified transmitter and receiver in a system of Hutchings using a transmitter and receiver system having improved power conservation feature as taught by Goekeke et al. and Sudo et al. for prolonged operation without power-down interruptions or excess power consumption.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1) US 5,426,425

--Similar use of PN delays in communication (Abstract).

2) US 6,667,993

--Known implementation of PN generator using maximal length register and use of header in communication (col. 7, lines 22-23; col. 17, lines 56-63).

3) US 5,321,754

--Another known implementation of PN generator using maximal length register and use of header in communication (col. 3, lines 59-62; Fig. 2A).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin C. Lee whose telephone number is (571) 272-2963. The examiner can normally be reached on Mon -Fri 11:00Am-7:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Benjamin C. Lee
Primary Examiner
Art Unit 2632

B.L.